

# PATENT ABSTRACTS OF JAPAN

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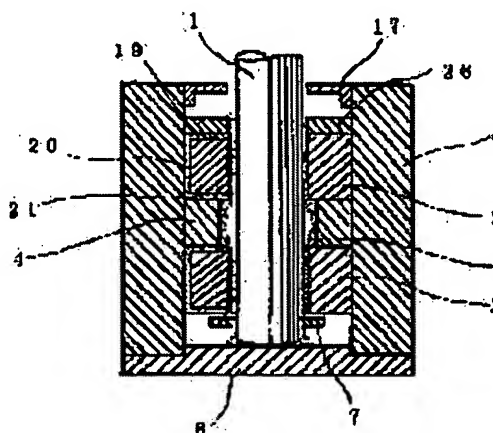
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## (54) BEARING UNIT AND DISK DRIVING DEVICE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain a bearing unit which has high bearing rigidity and is low in loss and excellent in impact resistance and mass productivity, by using multicircular arc bearings constituting plural bearing surfaces composed of the circular arc surfaces concentric to a bearing center and the circular arc surfaces eccentric thereto, thereby supporting a revolving shaft with good accuracy and accepting the impact load applied from the outside.

**SOLUTION:** A complete round radial bearing 26 and dynamic pressure tri-circular arc radial bearings 2 and 3 having the circular arcs concentric to the bearing, a permanent magnet 4 and a thrust bearing 8 are arranged at a bearing housing 5 so that the revolving shaft 1 having a spherical shape at its front end may be freely rotatably supported by these bearings. Magnetic fluid 6 is sealed into the nonmagnetic housing. The revolving shaft 1 is supported without contact by the complete round radial bearing 26 and the dynamic pressure tri-circular arc radial bearings 2 and 3 via this magnetic fluid 6. A permanent magnet of a rare earth is used for the permanent magnet 4 in order to impart a sealing function. The magnetic fluid prepd. by dispersing magnetic powder into lubricating oil is used for the magnetic fluid 6.



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